Operational Reconnaissance: Identifying the Right Problems in a Complex World

A Monograph

by

MAJ Donald Erickson
United States Army

School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas

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The Army deploys to complex operational environments characterized by multiple agents, opaque social networks and multiple, inter-related systems. Frequently, assumptions made in developing plans are proven incorrect when forces actually interact with these complex environments. As a result, actions by Army forces can be counter-productive in achieving the desired strategic aims. This paper proposes a model for the development of an operational reconnaissance force and explores its development and conceptual usage in World War II and the 2006 Israeli-Hezbollah War.

Operational reconnaissance seeks to interact with the complex environment to improve the operational commander's understanding and their ability to detect changes occuring within it. It is characterized by a requirement to support the operational commander, its integration into planning, its focus, and the necessary capabilities required to provide operational organizations with timely and useable information. The concept of operational reconnaissance develops its intellectual foundations amongst German, Soviet, and US theorists from the interwar period. Subsequent experiences from World War II further shaped the requirements necessary to conduct operational reconnaissance against a near peer adversary. The 2006 Israeli-Hezbollah War offers an opportunity to explore the evolution of the requirements necessary to conduct operational reconnaissance against an asymmetric threat in order to develop a more robust model nested within modern doctrine.

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_____, Monograph Director
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_____, Seminar Leader
Andrew Morgado, COL

_____, Director, School of Advanced Military Studies
Henry A. Arnold III, COL

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_____, Director, Graduate Degree Programs
Robert F. Baumann, PhD

Abstract

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The Army deploys to complex operational environments characterized by multiple agents, opaque social networks and multiple, inter-related systems. Frequently, assumptions made in developing plans are proven incorrect when forces actually interact with these complex environments. As a result, actions by Army forces can be counter-productive in achieving the desired strategic aims. This paper proposes a model for the development of an operational reconnaissance force, and explores its development and conceptual usage in World War II and the 2006 Israeli-Hezbollah War.

Operational reconnaissance seeks to interact with the complex environment to improve the operational commander's understanding and their ability to detect changes occuring within it. It is characterized by a requirement to support the operational commander, its integration into planning, its focus, and the necessary capabilities required to provide operational organizations with timely and useable information. The concept of operational reconnaissance develops its intellectual foundations amongst German, Soviet, and US theorists from the interwar period. Subsequent experiences from World War II further shaped the requirements necessary to conduct operational reconnaissance against a near peer adversary. The 2006 Israeli-Hezbollah War offers an opportunity to explore the evolution of the requirements necessary to conduct operational reconnaissance against an asymmetric threat in order to develop a more robust model nested within modern doctrine.

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Acronyms

ADP	Army Doctrine Publication
ADM	Army Design Methodology
ADRP	Army Doctrine Reference Publication
ATTP	Army, Tactics, Techniques, and Procedures
CCIR	Commander's Critical Information Requirements
COA	Course of Action
EBO	Effects Based Operations
FM	Field Manual
FSR	Field Service Regulations
HUMINT	Human Intelligence
IAF	Israeli Air Forces
IDF	Israeli Defense Force
JP	Joint Publication
PM	Prime Minister
PMESII	Political, Military, Economic, Social, Information, Infrastructure
SIGINT	Signals Intelligence
SOD	Systemic Operational Design
TOW	Tube-launched, Optically-tracked, Wire-guided
TP	TRADOC Pamphlet
TRADOC	Training and Doctrine Command
UN	United Nations
UNIFIL	United Nations Interim Force in Lebanon
US	United States

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Introduction

The US Army deploys to complex operational environments characterized by multiple actors with ill-defined relationships and motives. Frequently, assumptions made in developing plans are proven incorrect when forces operate in complex environments. As a result, actions by Army forces can be counter-productive in achieving the desired strategic aims. The Army uses the Army Design Methodology (ADM) to assist conceptual planning when faced with unfamiliar problems.[1] The initial activity within ADM is to frame the operational environment. This critical step relies on accurate information to define a problem in order to develop an operational approach that solves the problem. Although ADM allows for reframing, this deliberate process demonstrates a commitment of resources and requires significant feedback to necessitate a new operational approach. The quality of the information available during the early phases of conceptual planning can dramatically affect the outcome of an operation.

The United States collects information through the use of extensive strategic and operational intelligence capabilities that generally provide it with a significant advantage over its rivals both prior to and during a conflict. The term rival incorporates the complexity of the operational environment that may not necessarily include violence to defeat an antagonist, whereas an enemy is used in circumstances of war. The US advantage is not without its limitations. The Army currently lacks the capability to actively gain operational intelligence within an area of operations prior to the commitment of main body forces.[2] The concept of operational reconnaissance is a tool to gain operational intelligence in a complex environment. Operational reconnaissance is defined as reconnaissance conducted prior to and during campaigns

[1] Army Doctrine Publication (ADP) 5-0, *The Operations Process* (Washington, DC: Government Printing Office, October 2012), 7.

[2] Field Manual (FM) 3-55, *Information Collection* (Washington, DC: Government Printing Office, May 2013), 5-2.

to support the operational commander in the development or modification of an operational approach and to inform command decisions.[3] There are two likely answers for the lack of operational reconnaissance within the current force structure or doctrine: either the current intelligence system meets the needs for the operational level of war or there is a capability gap that needs to be identified and addressed. This monograph proposes that it is a capability gap the Army needs to fill to improve the agility of the US Army to adapt to complex environments in the future. The US Army can employ operational reconnaissance through an adaptive reconnaissance organization that integrates information collection capabilities, interacts with and evaluates relationships within the operational environment, and informs the operational commander.[4] Recent experience and the nature of the contemporary operational environment demonstrate a need to understand rivals prior to an action.

The Army evolved during two extended wars in Afghanistan and Iraq that differed greatly from the great battles of World War II, or even the Gulf War in 1991. Like Afghanistan and Iraq, future threats will be hybrid. The "hybrid threat is the diverse and dynamic combination of regular forces, irregular forces, terrorist forces, criminal elements, or a combination of these forces and elements all unified to achieve mutually benefitting effects."[5] Though these actors may work towards a mutually benefitting effect, the relationships between these actors can vary significantly and often change during the course of events.[6] The relationships between actors and the relationships with the environment itself requires a systems approach that recognizes the difficulty to predict future outcomes. The political scientist Robert Jervis states, "[a] systems

[3] This definition for operational reconnaissance is the result of the research of this monograph. The actual techniques for reconnaissance do not change between the levels of war and is predominantly distinguished by its purpose, focus, and necessary capabilities.

[5] Army Doctrine Publication (ADP) 3-0, *Operations* (Washington, DC: Government Printing Office, May 2013), 4.

[6] The term actors refers to organizations or individuals with unique agendas that may or may not be in line with US interests and the military objectives within an area of operation.

approach shows how individual actors following simple and uncoordinated strategies can produce aggregate behavior that is complex and ordered, although not necessarily predictable and stable."[7] As US forces deploy into the environment, the relationships between actors often prove unpredictable when met with the introduction of the external force and provide positive feedback that could ultimately change the system entirely. [8] This in turn drives several considerations for the employment of forces; namely, how can organizations detect this change, quickly formulate solutions and then apply the correct resources to the problem. Operational reconnaissance seeks to improve a commander's understanding of the operational environment and the changes occurring within it.

Operational reconnaissance has four basic characteristics. These are: (1) it must support the operational commander, (2) it must be integrated into operational planning from the very start, (3) it must have a clear focus, and (4) it must be resourced with the necessary capabilities to provide military organizations with timely and useable information. This framework will guide the development of operational reconnaissance from its roots in the interwar period, necessary modifications demonstrated during World War II and the 2006 Israeli-Hezbollah War, and help integrate the concept into contemporary doctrine.

Though operational reconnaissance is the focus of this study, deployed US ground forces employ maneuver units to conduct tactical reconnaissance and security operations. Security

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[7] Robert Jervis, *Systems Effects: Complexity in Political and Social Life* (Princeton, NJ: Princeton University Press, 1998), 7. The relationships between actors and the relationships with the environment itself requires a systems approach that recognizes the difficulty to predict future outcomes. "A systems approach shows how individual actors following simple and uncoordinated strategies can produce aggregate behavior that is complex and ordered, although not necessarily predictable and stable."

[8] Within the Army Operating Concept, the operational environment includes characteristics that identifies the increased of velocity of human interactions and the diverse demographics among populations as having critical impacts on land operations. Understanding these can have a dramatic impact on the development of an operational approach. TRADOC Pamphlet (TP) 525-3-1, *Army Operating Concept* (Washington, DC: Government Printing Office, October 2014), i.

operations provide early warning of the approach of enemy forces and prevent enemy reconnaissance assets from gaining information about the friendly force.[9] Much of this is due to the position of the reconnaissance force operating in front of main body units. As a result, the operational reconnaissance force retains a requirement and the necessary capabilities to prevent enemy information collection efforts against the US main body. Operational security force capabilities are an important function, but the emphasis for this paper is to explore the perceived gap that leads to operational reconnaissance, the interwar roots of operational reconnaissance, the rival impacts from World War II and the 2006 Israeli-Hezbollah War, and the development of a modern concept.

The first section demonstrates a cognitive gap within doctrine and a corresponding capability gap within current intelligence collection systems. This requires an understanding of the role of the operational commander and the information necessary to support that role. Using this understanding, this study evaluates current intelligence doctrine to identify where an operational reconnaissance force provides a new capability to support the operational commander. This section concludes with the operational reconnaissance model, which guides the discussion in the remainder of the paper.

Operational reconnaissance is not a new concept and has a strong intellectual foundations amongst German, Soviet and American theorists during the interwar period. The second section explores three western militaries who developed concepts of operational reconnaissance. The German military developed operational reconnaissance to provide a basis for decisions to guide large unit operations.[10] The Soviets developed a similar approach to extend the depth of their

[9] Field Service Regulations (FSR), *United States Army, 1923* (Washington, DC: Government Printing Office, 1923), 41 and Field Manual (FM) 3-90-2, *Reconnaissance, Security, and Tactical Enabling Tasks: Volume 2* (Washington, DC: Government Printing Office, 2013), 2-1. Security operations include: screen, guard, cover, area security, and local security.

[10] Bruce Condell and David T. Zabecki, eds. and trans., *On the German Art of War: Truppenführung* (London: Lynne Reinner Publishers, 2001), 122.

operations as part of their deep battle theory.[11] US doctrine during this same period emphasized distant reconnaissance to support operational command decisions.[12] These perspectives emphasized large-unit maneuver warfare against conventional forces. Many of the technologies from the period, such as the airplane and armored vehicles, still exist today as key capabilities to conduct reconnaissance against the enemy and therefore are pertinent examples.

The third section reviews historical experiences from World War II and the 2006 Israeli-Hezbollah War to refine the model for operational reconnaissance. The US and Soviet experiences in World War II provided critical lessons that govern the structure of an operational reconnaissance force against a conventional threat. The nature of conflict on the western and eastern fronts demonstrated necessary capabilities and limitations with the US and Soviet development of operational reconnaissance forces. The nature of conflict has dramatically changed from the battlefields of World War II. The 2006 Israeli-Hezbollah war, which lasted a mere thirty-four days, provides a clear example of a change in the nature of warfare and an opportunity to explore the possible use of operational reconnaissance against a hybrid opponent. The Israeli Defense Force (IDF) grossly misidentified the Hezbollah threat and developed an ineffective operational approach to defeat Hezbollah.[13] The 2006 Israeli-Hezbollah war analysis

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[11] V.K. Triandafillov, *The Nature of Operations of Modern Armies*, ed. by Jacob W. Kipp (Portland, OR: Frank Cass & Co. Ltd, 1994), 103.

[12] FSR 1923, 32.

[13] The unclassified Winograd Report also identified the following shortcomings: the decision making processes and staff-work in the political and military echelons and their interface; the quality of preparedness, decision-making and performance in the IDF high command, especially in the Army; the lack of strategic thinking and planning, in both the political and the military echelons; the defense of the civilian population and in coping with its being attacked by rockets; these weaknesses resulted in part from inadequacies of preparedness and strategic and operative planning which go back long before the 2nd Lebanon war. Israel Ministry of Foreign Affairs, "The Winograd Report," in Matt M. Matthews, *We Were Caught Unprepared: The 2006 Hezbollah-Israeli War* (Fort Leavenworth, KS: US Army Combined Arms Center, Combat Studies Institute Press, 2008), 28.

looks at operational decision making, and necessary changes in the operational reconnaissance objectives and capabilities. These refinements to the operational reconnaissance concept will help guide its integration into contemporary US doctrine.

The final section uses the foundation developed from the interwar period, the lessons learned from World War II and the 2006 Israeli-Hezbollah War, and contemporary planning doctrine to develop an understanding of how operational reconnaissance can inform the operational commander. The operational reconnaissance objectives and capabilities provide a unique option to employ when information of a rival is not sufficient to develop a clear operational approach. The operational commander determines the use of operational reconnaissance during joint operational planning, specifically during the strategic guidance and concept development steps.

Operational reconnaissance is a critical capability for a US Army that faces a complex world with ill-defined threats that are integrated into the local society. The initial actions of US forces, including operational reconnaissance, during the opening engagements of an operation can result in unintended consequences that can degrade the operational environment and the ability to achieve the objectives of a campaign. Therefore, developing an operational reconnaissance capability in the US Army can support contingency force tailoring, force employment, and operational planning.

The Operational Reconnaissance Gap

Incorporating operational reconnaissance into the current force requires understanding how the Joint force gathers strategic and operational level intelligence. A gap currently exists where operational reconnaissance can improve the understanding of the operational environment to support an operational commander's decision-making. In order to support decision making, operational reconnaissance requires a clear focus with matching tactical capabilities to develop an understanding of complex operational environments that include a broad spectrum of rivals.

The Operational Commander

Operational reconnaissance supports the operational commander. The operational commander is not tied to a specific echelon or formation. The title most appropriately applies to the individual conducting operational art. Army Doctrine Publication 3-0 defines operational art as "the pursuit of strategic objectives, in whole or in part, through the arrangement of tactical actions in time, space and purpose."[14] The operational commander could be a geographic combatant commander, a service component commander, a joint task force commander, or another theater-level commander depending on the size and scope of an operation or campaign. As used here, the operational commander is the one who develops the operational approach for a campaign or major operation to achieve strategic objectives.

Contemporary Intelligence

The US military and the broader national intelligence establishment maintains extensive information collection capabilities. These capabilities are well integrated and provide information support to all command echelons. Nevertheless, the US intelligence system often lacks the ability to provide sufficient understanding of an underlying problem and the associated rival systems. At

[14] ADP 3-0, 9.

the same time, and operational commander often cannot confirm rival intentions by relying strictly upon signal, visual, and other intelligence assets nor can it explore how that system will react to the introduction of an external force.[15] The gap exists within the intelligence system through inadequate doctrine, a lack of systems necessary to gain necessary information on current threats, and the limitations of current technological systems.

The United States has an extensive strategic intelligence capability and generally enters an area of operations better informed than any other country in the world. The information is never perfect and further efforts are required to gain better clarity to support operations. To support the combatant commander, intelligence planners provide a baseline assessment of the operational environment, rival capabilities, centers of gravity, vulnerabilities and estimated enemy courses of action.[16] These intelligence planners rely on all-source intelligence streams mainly derived from analyzed technical sources. Refined intelligence is generally not available until the operational commander commits the main force into the area of operations, which is ultimately too late to inform operational planning.

Current joint doctrine does not recognize operational reconnaissance as part of its intelligence framework. JP 2-0, *Joint Intelligence*, identifies operational intelligence as the information necessary for combatant commanders, subordinate joint force commanders, and component commanders to support planning.[17] In a complex environment characterized by "counterinsurgency and counterterrorism operations, operational intelligence is increasingly

[15] Intelligence disciplines include: geospatial intelligence, human intelligence, signals intelligence, measurement and signature intelligence, open-source intelligence, technical intelligence, counterintelligence, and applications. Joint Publication (JP) 2-0, *Joint Intelligence* (Washington, DC: Government Printing Office, October 2013), B-2.

[16] Ibid., IV-4.

[17] JP 2-0, I-24.

concerned with stability operations and has a greater focus on the operational variables."[18] Within the design methodology, operational intelligence helps establish an initial frame, but the value of this intelligence is limited by the capabilities of the detection assets. For instance, overhead imagery may lay out the physical characteristics of a village but, by itself, cannot decipher the complex social systems existent in that village. These assets may not provide sufficient understanding of the underlying problems and are unable to engage a rival to determine their intentions.

The Army addresses operational intelligence collection in FM 3-55, *Information Collection*. Operational collections assets include special operations forces, a military intelligence brigade and a mix of aviation units with aerial reconnaissance and surveillance assets. The military intelligence brigade provides significant counterintelligence, human intelligence (HUMINT) and signals intelligence (SIGINT) capabilities.[19] These capabilities are crucial for success during an operation, but are unable to gather intelligence prior to the commitment of the main body. Aerial assets have a similar limitation with additional basing requirements. Aerial assets also lack an ability to directly interact with the rival system to gain greater understanding. In traditional conflict with near peer conventional forces, none of these operational assets have the ability to fight enemy security forces to gain information. Special operations are an exception that can complement the operational reconnaissance effort.

Special operations provide significant capability with "a high degree of cultural awareness due to their extensive training, experience, and regional orientation."[20] Special operators are highly deployable and can quickly engage a rival system to gain information. This

[18] Ibid. The operational variables are political, military, economic, social, information, infrastructure, physical environment and time. The acronym is PMESII-PT.

[19] Ibid.

[20] FM 2-55, 5-4.

information is beneficial but special operations has little impact on a rival system to determine how it may adapt to a large external force. Special reconnaissance can also be limited to small geographic areas, a likely byproduct of relatively small forces operating covertly or attempting to minimize their presence. Operational reconnaissance provides an additional method to gain information through significant direct interaction with the rival system.

Operational Reconnaissance Defined

Operational reconnaissance is the key capability that not only supports the operational commander during the conflict, but fills an important role prior to commitment of the main body. Operational reconnaissance can be defined as reconnaissance conducted before and during campaigns to provide the basis for the development or modification of an operational approach.[21] There are several key characteristics that apply to the employment of operational reconnaissance. The first is that it is a force, which is employed when senior strategic leaders have made a decision to employ military force against a rival. The second is that it develops situational understanding through action, as action is the primary way to test and assess a complex adaptive system.[22] The third is that it is a learning organization with the ability to analyze and synthesize information to learn about the environment and rivals. To develop situational understanding, operational reconnaissance requires a clear objective.

A reconnaissance objective governs the conduct of all reconnaissance operations.[23] In contemporary doctrine, a "reconnaissance objective is a terrain feature, geographic area, enemy

[21] By current doctrine, reconnaissance is a mission undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an enemy or rival, or to secure data concerning the meteorological, hydrographic, or geographic characteristics of a particular area. FM 3-55, 1-6.

[22] TP 525-3-1, 16.

[23] There are seven fundamentals of successful reconnaissance: ensure continuous reconnaissance, do not keep reconnaissance assets in reserve, orient on the reconnaissance

force, enemy force, or other mission or operational variable, such as civil considerations, about which the commander wants additional information."[24] Further discussion will address the characteristics of operational reconnaissance objectives. "Commanders assign reconnaissance objectives based on commander's critical information requirements (CCIR), reconnaissance asset capabilities, and reconnaissance asset limitations."[25] The contemporary Army definition for the reconnaissance objective is suitable for both tactical and operational reconnaissance missions.

The operational reconnaissance objectives help define the required capabilities that will support the development of an operational reconnaissance force. Broadly, the operational reconnaissance force must be a robust, deployable and highly adaptable organization that can pursue reconnaissance objectives in any type of environment. This requires a well-founded core formation with the ability to task organize additional capabilities as required to appropriately interact with partners and rivals in the operational environment.

The current US intelligence system is robust and provides significant information to commanders at all levels. However, this system is currently unable to interact with the rival system to determine how it may adapt following the deployment of US main body forces. Operational reconnaissance provides a unique capacity to explore the rival system to determine its structure, relationships, behaviors and responses to an intervening force. An improved understanding of the rival system increases the operational commander's ability to develop an appropriate operational approach. Interwar theorists explored operational reconnaissance as a method to gain the intelligence necessary to conduct large unit operations in a future war.

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objective, report information rapidly and accurately, retain freedom of maneuver, gain and maintain enemy contact, and develop the situation rapidly. FM 3-90-2, 1-2.

[24] FM 3-55, I-6.

[25] Ibid.

Theoretical Foundation – The Interwar Period

World War II saw the employment of modern mechanized warfare following extensive efforts during the interwar period to solve the problem of static warfare. American, German and Soviet military leaders and theorists sought to restore maneuver to the battlefield and each implicitly understood the need to conduct reconnaissance to a depth necessary to support operational planning and maneuver. For the purpose of this discussion, references to operational command, planning, and reconnaissance include what the interwar US Army called large unit operations. [26] The Germans and the Soviets used the term operational during this period. These nations addressed the concept of operational reconnaissance and subsequently applied it in a traditional conventional conflict in 1939-1945. Germany, the Soviet Union, and the United States each developed similar operational reconnaissance concepts but expressed them differently. Each nation shared view on the purpose, reconnaissance objectives and capabilities necessary to support their vision for operational reconnaissance in the next war.

The Anticipated Operational Environment

Following World War I, military theorists and leaders sought to overcome the problem of positional warfare between armies that led to general stalemate through the entire breadth of a theater. The armies of the major powers sought restore maneuver to the battlefield within their own operational concept. Each of these concepts included discussions of operational reconnaissance that sought to identify weakly defended areas that could enable a war of maneuver in depth. From the American perspective, effective command and control, reliance on firepower, and the use of combined arms operations were necessary to envelop or penetrate enemy

[26] The US Army doctrine incorporated operational art in the 1986 version of FM 100-5, Operations, far after the interwar period. Antonio J. Echevarria II, "American Operational Art, 1917 – 2008," in *The Evolution of Operational Art*, ed. John Olsen and Martin Van Creveld (Oxford, UK: Oxford University Press, 2011), 138.

positions.[27] The *Field Service Regulations, 1923* (FSR 1923) and subsequent publications defined the ultimate objective or end state for these operations as the destruction of the enemy's forces in battle.[28] The Soviet *Field Regulations for the Red Army, 1936*, shared a similar vision for modern warfare:

> Modern combat materiel makes possible the simultaneous destruction of the enemy at all echelons. There is an increase in the options for reorganization, surprise flanking movements, and occupation of areas behind enemy lines with attacks against his escape routes. When the enemy is attacked, he must be surrounded and completely destroyed.[29]

The Red Army conception of future warfare pursued the defeat of the enemy army, but added the importance of simultaneously attacking enemy formations in great depth. The German *Reichswehr* also sought to establish a highly mobile and capable army with the aim to annihilate enemy forces through a decisive battle.[30] These combined views framed the operational environment for the military leaders who fought in World War II. Operational commanders sought to enhance their understanding of opposing forces to plan a campaign that destroyed the enemy force while preserving one's own. Based on the distances envisioned for maneuver, commanders required reach or depth of reconnaissance to divine enemy disposition and composition. The need to understand the theater disposition of the enemy army provided the impetus to develop operational reconnaissance.

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[27] Peter J. Schifferle, *America's School for War: Fort Leavenworth, Officer Education, and Victory in World War II* (Lawrence, KS: University of Kansas Press, 2010), 48.

[28] Ibid., 49.

[29] Department of Commerce, *PU-36* (Springfield, VA: National Technical Information Service, 1986), 5.

[30] Robert Citino, *The German Way of War: From the Thirty Years War to the Third Reich* (Lawrence, KS: University of Kansas Press, 2005), 243.

The Purpose of Operational Reconnaissance

The efforts to restore maneuver to the battlefield contributed to a common desired purpose for operational reconnaissance. The 1933 German doctrinal publication, *Truppenführung,* provided the foundation for German mechanized operations in World War II and identified that reconnaissance (*Aufklärung*) should produce a picture of the enemy situation rapidly, completely, and reliably to form the basis for the commander's decisions and the deployment of the force. It goes on to state that "operational reconnaissance (*Operational Aufklärung*) provides the basis for operational decisions."[31] The American FSR 1923 echoed this concept where "[distant] reconnaissance is directed against distant objectives. It procures information upon which *strategical* and *operative* plans and decisions of the high command are based."[32] The military leaders from this period clearly understood the need to seek out information about the enemy to support operational planning.

The US Army subsequently established doctrine governing large unit operations essentially conducting operational art. The Army published FM 100-15, *Field Service Regulations: Operations – Large Units* in 1942 to provide a framework for corps and armies to conduct campaign planning. Commanders conducted campaign planning to achieve the defined ends and subsequently selected objectives oriented towards enemy forces and critical infrastructure.[33] This required continuous reconnaissance both prior to and at the start of a

[31] Condell, 39.

[32] FSR 1923, 32. Emphasis added. High command at this time is identified as the headquarters of the commander of the field forces, known as the general headquarters. At this time, it would most likely be an army or a group of armies. FSR 1923, 1-2.

[33] Field Manual (FM) 100-15, *Field Service Regulations, Operations – Large Units* (Washington, DC: Government Printing Office, 1942), 2 and 12.

campaign to confirm information regarding the enemy.[34] Operational reconnaissance ultimately supported the commander's ability to select the objectives for the campaign.

The Operational Reconnaissance Objectives

The objectives for operational reconnaissance during the interwar period focused on theater level characteristics of the enemy army and geography. FSR 1923 provided the focus for distant reconnaissance to "determine the enemy areas of concentration and the strength, general composition, routes and direction of movement of hostile columns; the progress, depth, and width of the movement; the location and configuration of the enemy's dispositions and his defensive organization; the location and strength of his general reserves; railroad traffic and construction behind the enemy's lines; location of supply establishments, airdromes, etc."[35] During the same period, German doctrine specified that "operational reconnaissance encompasses the surveillance of the enemy's concentration, [which] includes major movements, army level elements, construction of field or permanent fortifications, and enemy air unit concentrations."[36] The Soviet theorist Vladimir Triandafillov added the observation of all routes by which deep strategic reserves could arrive and towards the detection of areas of supply for new enemy forces.[37] In summary, the operational reconnaissance objectives were force concentrations, enemy operational and strategic reserves, enemy operational enablers, key supply locations and major infrastructure or terrain features. Operational level enablers were units or capabilities that existed at the army or army group level whose disposition provided an indication of upcoming operations

[34] Ibid., 27.

[35] FSR 1923, 32.

[36] Condell, 44-45.

[37] Triandafillov, 106.

– what *Truppenführung* called simply 'army level elements.'[38] The American, German, and Soviet focus points were meant to help a commander develop objectives and make decisions that aim to defeat the enemy army.

Operational Reconnaissance Capabilities

The interwar armies developed capabilities that incorporated lessons learned from the large unit operations in First World War, while supporting future US, German and Soviet visions for maneuver warfare. New motorized, mechanized, and aerial technologies profoundly impacted the units and the types of reconnaissance operations to support army level operations. Each military identified necessary capabilities that included depth, mobility, lethality, survivability, adaptability, and sustainability to support operational reconnaissance operations. In the theoretical sense, these capabilities shared similarities in concept but differed in their degree or importance.

The first capability was depth, or the ability to "see" far into enemy controlled spaces. This capability entailed necessary air and ground means specifically concerned with maximizing the range a reconnaissance force can operate beyond the main body. German General Heinz Guderian specifically recognized the importance of air forces to conduct long-range reconnaissance, but also understood the need for ground reconnaissance to overcome the limitations associated with aerial reconnaissance, namely weather and ground obscuration, to a depth of 100 kilometers.[39] The Soviet *PU-36* further emphasized aerial reconnaissance as the primary way to conduct operational reconnaissance.[40] Although the US Army also subscribed to the need for aerial reconnaissance, US cavalry doctrine in 1944 emphasized distant ground

[38] Condell, 44-45.

[39] Guderian, 163.

[40] PU-36, 10 and 19.

reconnaissance to a range of 50 to 100 miles from the main body.[41] Aerial assets had a significant role in locating the enemy, but lacked the ability to gain the information necessary to determine enemy intentions. This required a highly versatile ground force capable of conducting operations separate from the main body using significant mobility, minimal external sustainment requirements and the ability to defeat enemy security elements.

Operational mobility was a second required capability. This concept differed from tactical mobility as the force must have the ability to cover much greater distances predominantly using roads that were equally necessary to support movement within the theater. Guderian believed that multi-wheel vehicles with rear steering supported greater speed and range but provided some cross-country mobility. Fully tracked or partially tracked vehicles were much more suitable for tactical reconnaissance.[42] This did not preclude fully tracked light or medium tanks from conducting operational reconnaissance. These were required to defeat armored security forces or operate in cross-country terrain. Given the remote nature of operational reconnaissance, units required significant lethality to defeat enemy security forces when outside the range of supporting fires.

The third major capability that support operational reconnaissance was the lethality necessary to kill enemy reconnaissance and security forces to pursue the reconnaissance objectives. The lethality required was tied to the opposing forces a reconnaissance element may face. Interwar theorists recognized a need to penetrate deliberate defenses, as well as the need to defeat more lightly equipped reconnaissance and security forces. American doctrine established hard-striking mobile forces to defeat hostile protective screens through combat.[43] Most combat

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[41] Field Manual (FM) 2-30, *Cavalry Reconnaissance Squadron: Mechanized* (Washington, DC: Government Printing Office, 1944), 31.

[42]Guderian, 164.

[43] FM 100-15, 27-28.

focused on the infantry fight, but US leaders reinforced front line units with more lethal artillery and tanks as required for the mission.[44] Triandafillov equally recognized the need for lethality when he identified that ground reconnaissance forces must also have the capability with artillery and tanks to defeat enemy covering forces to gain necessary information.[45] Both US and Soviet theorists recognized the importance of combined arms to penetrate strong defensive positions. The primary distinction was the US augmentation approach versus a Soviet integrated approach. Whereas the US approach emphasized the ad hoc augmentation of reconnaissance units to meet the anticipated threat, Soviet doctrine assigned the mission to an organic, integrated unit not specifically organized as a reconnaissance element. In the Soviet model, this blurred the distinction between dedicated reconnaissance organizations and a regular unit given a specific reconnaissance mission. A common problem to each approach was the balance between mobility and protection when configuring reconnaissance units.

Survivability was a fourth capability that requires a level of armor protection against enemy fire. In essence, reconnaissance forces had to be able to survive contact to meet their fundamental requirement to report on enemy activity. However, protection is often the inverse of operational mobility; as one increases the other correspondingly decreases. A tension existed between using fully-tracked and heavily armored tanks versus wheeled and lightly armored scout cars. The Germans emphasized range and speed, but recognized armor protection as a critical combat power requirement for operational reconnaissance.[46] As noted previously, the Soviets envisioned a predominantly armored force with far greater protection. Operational reconnaissance

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[44] FSR 1923, 78.

[45] Triandafillov, 103. A covering force is a self-contained force capable of operating independently of the main body, unlike a screening or guard force. A covering force, or portions of it, often becomes decisively engaged with enemy forces. Therefore, the covering force must have sufficient combat power to engage the enemy and accomplish its mission. Field Manual (FM) 3-90.6, *Brigade Combat Team* (Washington, DC: Government Printing Office, 2010), 5-9.

[46] Guderian, 163.

forces within the US and German armies generally sacrificed some level of survivability in order to achieve greater mobility with armored cars. It was essentially up to a commander to assess the enemy threat and augment the operational reconnaissance force with greater protection to keep it alive long enough to fulfill its mission.

The final capability to address was the ability for operational reconnaissance forces to independently sustain themselves. US doctrine from 1923 to 1944 assumed the main force would fulfill basic sustainment requirements for Cavalry formations.[47] However, the US Army clearly recognized that reconnaissance formations had a unique role and authorized the local procurement of supplies when operating at extreme distances from supply points.[48] The use of local supplies emphasized the importance of distant reconnaissance to support operational decision making. Operational reconnaissance forces had to operate well beyond the main force, but also plan for their sustainment accordingly. This could require reducing the level of protection to reduce sustainment requirements and thereby increase operational mobility and depth.

German, Soviet, and US military theorists provided the foundation for the concept of operational reconnaissance. Interwar theorists sought to restore mobility to the battlefield following the extended positional warfare that existed in the First World War. As envisioned, operational reconnaissance would guide actions of armies and groups of armies in mobile operations. The early concepts for operational reconnaissance soon received their first test on the European battlefields of World War II.

[47] FSR 1923, 149. FM 2-30, 65.

[48] FM 2-30, 69.

Operation Reconnaissance Case Studies

Though the German, Soviet, and American armies developed concepts for operational reconnaissance, there are no explicitly directed operational reconnaissance missions in the historical records to demonstrate the validity of the concept. However, there are several scenarios that demonstrate the application of operational reconnaissance to support an operational commander's decision making. Each case study will provide a brief overview of the scenario that describes the operational environment, followed by a consolidated analysis of the operational reconnaissance objectives and necessary capabilities. The World War II scenarios include two operations and one opportunity that follow much of the interwar theory. The 2006 Israel-Hezbollah War depicts a complex operational environment, which requires a modification of operational reconnaissance to support the operational commander.

World War II

During World War II, the nature of the fighting often precluded the use of operational reconnaissance, or reconnaissance in general, to prevent a force's premature destruction. As a result, reconnaissance forces tended to execute more traditional maneuver tasks outside the recognized reconnaissance and security mission profiles. The US and Soviet experiences proved that large reconnaissance forces were extremely adaptable to the changing environment and requirements. These organizations successfully fought against German forces on both the Western and Eastern Fronts. The design of operational reconnaissance within an operational environment such as World War II must account for an extremely lethal, but traditional conventional enemy. These World War II case studies highlight the fact that operational reconnaissance forces will attain different levels of success in varying conditions and reinforce the importance of the reconnaissance objective. When considered, forces can be tailored with the appropriate capabilities to support the operational commander.

Western Front – US Reconnaissance

For US forces, operational reconnaissance efforts were limited during World War II with the majority of the reconnaissance effort conducted at the tactical level. The majority of operations conducted in France involved combat between main body units. In one example where reconnaissance was used in a more traditional fashion, the 113th Cavalry Group conducted operational reconnaissance to determine the disposition of the retreating German Army in support of the XIX US Corps advance to cross the Albert Canal.[49] The XIX US Corps commander, Major General Corlett, was a tactical commander within the First US Army. However, the reconnaissance objectives and the capabilities of the 113th Cavalry Group are relevant for subsequent discussion later in this section.

During the drive into Holland in September 1941, XIX US Corps ordered the 113th Cavalry Group to conduct a zone reconnaissance through a 20 mile wide and 125 mile long corridor to develop the enemy situation and identify bridge conditions across the Meuse River on five principal routes.[50] This operation began on September 5 and suited the 113th Cavalry Group well as it defeated pockets of German resistance.[51] The 113th Cavalry Group identified that Fort Eben Emael was undefended, but the Germans had destroyed all bridges across the Meuse River and established a defensive line on the east bank of the Albert Canal.[52] General Corlett recognized an opportunity and secured the use of bridges in Liege from the VII US Corps to cross

[49] The Cavalry Group predominantly conducted operations in support of Corps. The 6th Cavalry Group was the only group that operated consistently for an Army headquarters and did not conduct reconnaissance operations. United States Forces General Board, European Theater, Study Number 49: Mechanized Cavalry Units, January 1946, accessed October 27, 2013, http://usacac.army.mil/cac2/cgsc/carl/eto/eto.asp. Future citations are noted by General Board 49.

[50] Ibid., 7.

[51] Ibid.

[52] Frederic E. Pamp Jr, *Normandy to the Elbe* (United States Army: XIX Corps, 1945), 19.

the 113th Cavalry Group. The 113th Cavalry Group concluded this operation with an attack to clear German defensive positions on the east bank of the canal. Concurrently, the 30th Infantry Division secured its own foothold across the canal.[53] The 113th Cavalry Group executed operational reconnaissance in support of the XIX US Corps seizure of crossing points on the Albert Canal. Interestingly, the Allied success in Belgium and Holland enabled the next opportunity to conduct a possible operational reconnaissance operation in the Ardennes forest.

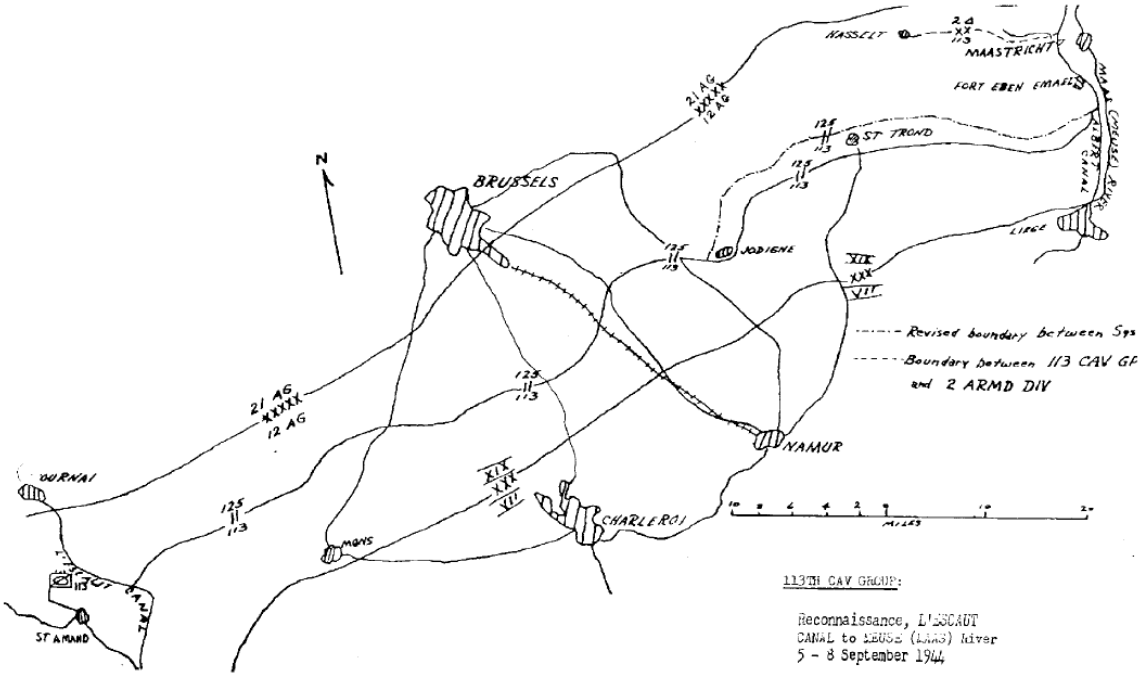

Figure 1. 113th Cavalry Group Operations: 5 – 8 September 1944

Source: General Board 49, Appendix 6, 7.

[53] Charles B. MacDonald, *The Siegfried Line Campaign* (Washington, DC: Center of Military History, 1990), 101.

Western Front – Defensive Opportunity

Shortly after the successful 113th Cavalry Group operation, Adolf Hitler directed his officers to study a possible offensive from the densely forested Eiffel region through the Ardennes to trap nearly half the British, American, and Canadian troops on the continent. Hitler chose to conduct the operation during a period of extensive poor weather to limit the Allied air advantages.[54] The German Army conducted preparations for the offensive throughout November 1944, with unclear indications of the pending offensive. The western Allies had their own concerns with a general offensive through the Roer River Valley towards the German border. This, and Soviet offensive operations, reinforced the belief that the German Army could not conduct a major offensive operation. In the relatively quiet Ardennes sector, operational reconnaissance may have revealed the concentration of forces in preparation for *Wacht am Rhein* in December 1944. In this example the operational commander was the 12th Army Group commander, Lieutenant General Omar Bradley, who would have greatly benefitted from the information gained through operational reconnaissance.

The German offensive in the Ardennes caught Allied commanders by complete surprise against newly arrived forces from the United States and battle weary forces recovering from combat actions. Despite significant aerial reconnaissance and ULTRA reports concerning enemy activity from Army Group B, General Bradley assumed both sides were using the Ardennes to rest weary divisions.[55] The weakly held and static US defensive positions would have benefitted greatly from an operational reconnaissance force operating in front of the First US Army. Given the intelligence reports that identified unexpected German activity, a cavalry group with tank and aerial augmentation would have been likely necessary to conduct a penetration of German

[54] Charles B. MacDonald, *A Time for Trumpets: The Untold Story of the Battle of the* Bulge (New York, NY: William Morrow, 1985), 23.

[55] Ibid., 67-68.

defenses in order to conduct a short duration reconnaissance of ten to fifteen miles into the German rear area. In this case, the identification of armor and mechanized infantry forces in unexpectedly greater strength would have proven a strong indicator for offensive operations. Operational reconnaissance forces could also have assessed the trafficability of the Ardennes Forest during the winter to confirm or deny the feasibility of a major offensive operation. This example is not meant as a revision of what could have happened, but demonstrates an opportunity within a large conventional war where operational reconnaissance could have precluded disaster and improved an operational commander's decision making.

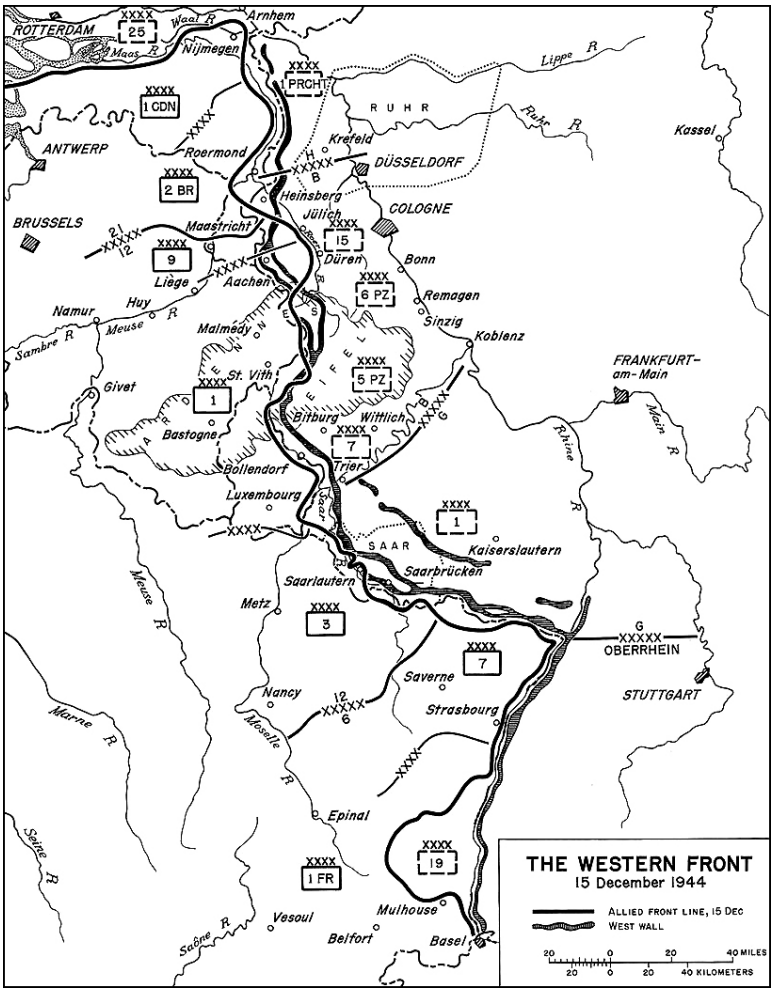

Figure 2. Western Front Dispositions: 15 December 1944

Source: Hugh M. Cole, *The Ardennes: Battle of the Bulge* (Washington, DCL Government Printing Office, 1965), 52.

Eastern Front – Soviet Reconnaissance

The Eastern front in World War II presented a much different problem for the Soviet commanders in mid-1944. German forces established a series of defensive zones that extended up to 270 kilometers from the front line. The Soviet Operation Bagration used four Army Groups and 1.4 million men to defeat Army Group Center with 1.2 million men, though with a significant advantage in aircraft, artillery and tanks.[56] Soviet forces tended to face stiff German defenses, but often operated in open terrain following a breakthrough. The III Guards Mechanized Corps, equal to an American division, operated in this type of environment as part of the larger offensive under the 3rd Byelorussian Army Group. The operational commander in this scenario was Colonel General Ivan Kanilovich Chernyakovskiy.

The III Guards Mechanized Corps, under Lieutenant General Victor Obukhov, had the mission to exploit a penetration in the German first defensive line with the aim to assault across the Berezina River south of Lake Palik and fight to the rear of the German main forces.[57] This operation began as a deliberate attack, but developed into an operational reconnaissance mission for the 3rd Army Group. Following the discovery of a tactical gap in the German lines, the III Guards Mechanized Corps avoided enemy defenses and quickly enveloped the key town of Senno.[58] At this critical point, General Obukhov developed the disposition of the remaining German forces and reported the situation. General Chernyakovskiy recognized the opportunity and changed the Corps' mission to seize crossing sites north of Lake Palik, rather than south of it (Figure 3 – III Guards Mechanized Corps Operations: 23-25 June 1944).[59] As a result, the Soviets

[56] Headquarters Department of the Army, *Studies of Soviet Combat Performance* (Carlisle Barracks, PA: US Army War College, 1983), 44-46.

[57] Ibid., 52.

[58] Ibid., 64.

[59] Ibid., 65-66.

were able to place a mechanized corps behind the German Army with a continuous flow of additional forces.

Throughout the operation, the III Guards Mechanized Corps had to fight stiff German resistance that required significant combat power to overcome. This scenario fit the nature of the Eastern Front, where a more lightly equipped US Cavalry Group would have had difficulty surviving ahead of main body troops. The III Guards Mechanized Corps provided an operational reconnaissance capability with the strong ability to fight for information. This operation with the US scenarios provide insight of reconnaissance objectives and the required capabilities necessary to conduct operational reconnaissance.

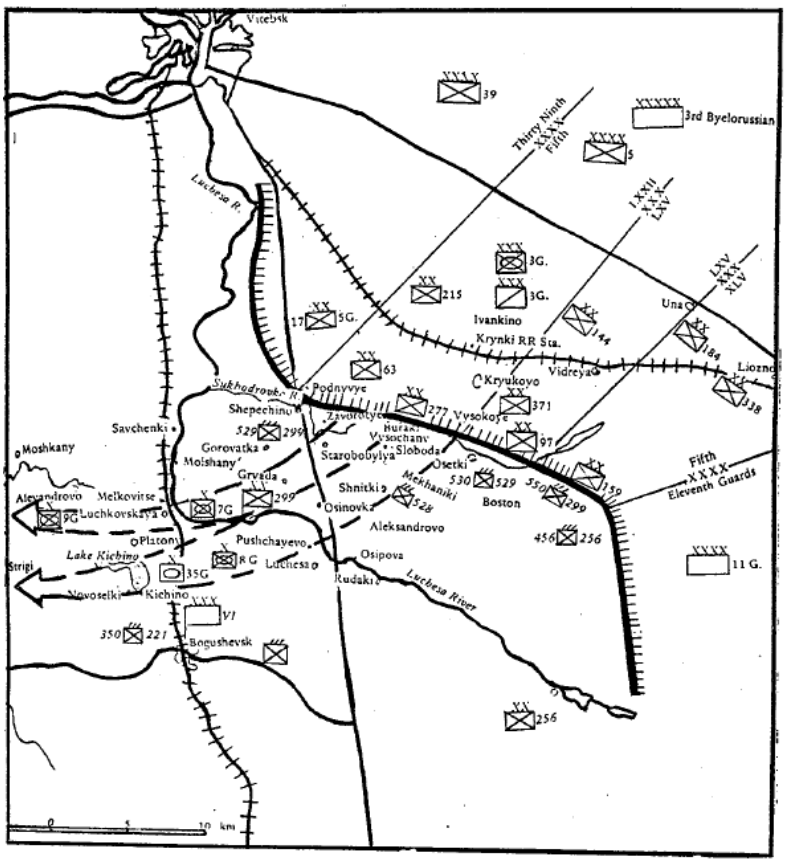

Figure 3. III Guards Mechanized Corps Operations: 23-25 June 1944

Source: *Studies of Soviet Combat Performance*, 59.

Operational Reconnaissance Objectives – World War II Experience

The battlefield experience highlighted above validated the critical importance of orienting on the reconnaissance objectives. The previously stated operational reconnaissance objectives were force concentrations, enemy operational and strategic reserves, enemy operational enablers, key supply locations and major infrastructure or terrain features. In each of the scenarios, the operational reconnaissance objectives shaped, or could have, the decision making for the operational commander. However, each of the historical examples place the reconnaissance objectives as the primary or secondary task to other combat actions.

The 113th Cavalry Group focused predominantly on the routes and river crossings necessary to support the rapid advance of the XIX Corps. The group subsequently identified the disposition of German defenses in vicinity of the Albert Canal. The rapid advance and the understanding of the unprepared German positions enabled General Corlett to redirect forces around the canal to capture a bridgehead for a future advance into Holland.[60] The III Guards Mechanized Corps oriented initially on German troop dispositions and rear area assets necessary to defeat German resistance and enable the advance of the Soviet 5th Army.[61] Following the capture of Senno, the reconnaissance objective focused on terrain features that facilitated operational movement, notably crossing sites on the Berezina River. The III Guards Mechanized Corps successful combat actions and enemy intelligence enable General Chernyakovskiy to modify his operational objective to facilitate the destruction of Army Group B.

In the Ardennes scenario, reconnaissance and ULTRA identified German reserves gathering near Cologne in November 1944, but failed to identify additional forces east of the Ardennes nor their intention.[62] The operational reconnaissance objectives from the interwar

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[60] MacDonald, *The Siegfried Line Campaign,* 101.

[61] *Studies of Soviet Combat Performance,* 52.

[62] MacDonald, *A Time for Trumpets*, 69-72.

period were the predominant focus for operational commanders, but the conceptualization of these objectives required greater than expected capabilities to defeat German front line forces to enable operational reconnaissance efforts.

Operational Reconnaissance Capabilities – World War II Experience

In traditional warfare, operational reconnaissance worked well following major breakthroughs to identify positive or negative intelligence about the enemy. Combat experience supported the need for an operational reconnaissance mission, but did not preclude the reality that cavalry organizations were routinely assigned traditional offensive, defensive and security operations the majority of the time.[63] This reality was largely a product of operational conditions not advantageous for the use of operational reconnaissance and the need for forces in more conventional maneuver roles. Despite the employment limitations, US and Soviet planners still addressed depth, sustainability, mobility, lethality, survivability, and adaptability. Experiences in the war led to a refinement of these capabilities.

Depth includes both air and ground capabilities, with air having the predominant role given its speed and range. In each scenario, the Allies integrated their significant air advantage over the Germans, but specific discussions during each operation are limited. In general, the US Army Air Corps recognized the importance of visual reconnaissance to support ground forces following a breakthrough, but understood its own weather and ground obscuration limitations. The distance from aerodromes and communication with ground forces further limited the air force ability to support the ground force.[64] During offensive operations, the 113th Cavalry Group

[63] General Board 49, 7.

[64] United States Forces General Board, European Theater, Study Number 19: The Utilization of Tactical Air Force Reconnaissance Units of the Army Air Forces to Secure Information for Ground Forces in the European Theater, January 1946, 10, accessed January 29, 2015, http://usacac.army.mil/cac2/cgsc/carl/eto/eto.asp.

and III Guard Mechanized Corps conducted operations ranging from 110 to 120 miles to include maneuver against enemy forces.[65] In the proposed defensive operations, such as in the Ardennes, these operations would not have exceeded 10 to 15 miles to identify enemy assembly areas. The distance for operational reconnaissance operations required careful sustainment planning.

The US and Soviet forces required careful sustainment planning to enable their operations. The III Guards Mechanized Corps planned to conduct three to four resupplies to support their operation beyond the support of the 5th Army.[66] The Corps formation proved optimal to provide the necessary sustainment requirements to support the initial operation, but required increasing support following the crossing of the Berezina River.[67] US Cavalry organizations in World War II equally understood sustainment requirements and operated successfully in enemy territory. The 113th Cavalry Group strained the XIX Corps as it balanced the need to transport troops versus fuel and ammunition. Quartermaster ingenuity proved crucial as the assistant G-4 discovered thousands of gallons of fuel in tank barges.[68] Though there were a number of areas to improve, including the need for additional cargo vehicles, medical personnel and augmentation to support attachments.[69]

The US and Soviet forces pursued different avenues to support mobility, a capability heavily influenced by lethality and survivability requirements. US combat experiences indicated that wheeled vehicles with their greater speed and range were more important than the cross

[65] *Studies of Soviet Combat Performance*, 52.

[66] Ibid., 53.

[67] Ibid., 70.

[68] Pamp, 19.

[69] General Board 49, 11.

country capable, yet slow, tracked vehicles.[70] US forces further recognized that their vehicle mounted weapons provided a distinct advantage in lethality in the open, but lacked the riflemen to conduct dismounted operations.[71] In the terrain of the Ardennes forest, dismounted Soldiers would have been necessary to defeat or bypass German security forces. The force itself would have likely required tank destroyer support as well to defeat forward German tanks. Significant firepower proved critical to overcoming enemy resistance, but highly mobile vehicles, such as the M8 Light Armored Car, proved vulnerable to enemy tanks. [72] Ultimately US forces sacrificed greater armor protection in favor a highly mobile force.

The Soviet III Guards Mechanized Corps was a heavily armed and heavily armored force that not only sought information but required the capability to defeat significant enemy forces in the process of exploiting a penetration.[73] The Soviet force emphasized greater cross-country mobility and had to contend with heavily wooded and marshy terrain with a planned movement rate of eleven miles per day.[74] The combined arms capability of the Soviet Guards Mechanized Corps provided an operational reconnaissance capability that accepted the reality of facing well-emplaced German forces. As a result, the Soviet 5th Army advanced successfully behind the advance force, and the 3rd Army Group achieved its operational objectives as part of the broader Operation Bagration strategic offensive.

In light of its combat experiences, US forces recognized the need for an additional capability; namely adaptability. Though not yet in pre-war doctrine, US Cavalry forces learned it

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[70] Ibid., 14.

[71] General Board 49, 10.

[72] Cameron, 77-78.

[73] *Studies of Soviet Combat Performance*, 49.

[74] Ibid., 54.

needed to be ready for a broad range of missions. US doctrine strongly emphasized reconnaissance missions only, unless no other forces were available.[75] In a post-war assessment, the General Board identified adaptability and flexibility as critical characteristics of reconnaissance organizations throughout the war.[76] In fact, US Cavalry groups conducted purely reconnaissance missions only three percent of the time relative to forty-three percent for offensive and defensive operations.[77] Ultimately the Cavalry organizations proved extremely successful in a variety of roles and an operational reconnaissance force must maintain that level of adaptability.

Each of these capabilities provide a foundation for a contemporary operational reconnaissance force, but the nature of conflict has evolved beyond the traditional warfare seen in World War II. The US experiences in Iraq and Afghanistan differ dramatically as it faced an irregular force with a range of hybrid threat capabilities. The Israeli experience against Hezbollah in 2006 offers a similar, yet shorter, experience to explore operational reconnaissance.

2006 Israeli-Hezbollah War

The experiences from World War II are pertinent today, where technology has not yet changed the general nature of maneuver warfare against a traditional army. However, contemporary conflicts have followed a trend away from traditional warfare towards more hybrid threat.[78] The 2006 Israeli-Hezbollah war provides a modern case study to explore the impact of inadequate operational reconnaissance on an operation. Israel lacked a clear understanding of

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[75] FM 2-30, 20.

[76] General Board 49, 10.

[77] Ibid., 7.

[78] A hybrid threat is the diverse and dynamic combination of regular forces, irregular forces, terrorist forces, and/or criminal elements unified to achieve mutually benefitting effects, ADRP 3-0, 1-3.

Hezbollah and this directly impacted the Israeli Defense Forces (IDF) ability to win on the battlefield. The IDF had an opportunity to employ operational reconnaissance to frame perceptions of the operational environment, enhance the decision making processes from military leaders, and develop an operational approach using available capabilities that could successfully achieve strategic objectives. This section provides an overview of the situation and IDF decision making, then analyzes necessary refinement to the operational reconnaissance objectives and the necessary capabilities from World War II.

There were factors that affected IDF decision-making included complications with reserve mobilization, a reliance on total air supremacy that neglected preparations for the land army, and mission differences from the limited clearance operations in the West Bank and Gaza strip.[79] These limitations exacerbated with inadequate intelligence about Hezbollah. This study is limited to the unclassified information available; the stated objectives, first-hand accounts, and tactical actions provide enough information to explore the use of operational reconnaissance.

The Operational Environment and Israeli Decision-Making

The Israeli-Hezbollah war escalated quickly following a successful Hezbollah raid on July 12, 2006 against an Israeli border outpost that killed eight IDF soldiers and captured two more. Hezbollah conducted this raid with the aim to repeat successful prisoner exchanges conducted in 2004, but grossly underestimated the Israeli response.[80] The IDF sought to execute their operations using a systems-based approach that incorporated joint precision firepower and special operations against an enemy's entire system to achieve desired results with minimal

[79] Gilbert Achcar and Michel Warschawski, *The 33-Day War: Israel's War on Hezbollah in Lebanon and Its Consequences* (Boulder, CO: Paradigm Publishers, 2007) 68.

[80] Lara Deeb, "Hizballah and its Civilian Constituencies in Lebanon," in *The War on Lebanon: A Reader*, ed. Nubar Hovsepian (Northhampton, MA: Olive Branch Press, 2008), 62.

casualties.[81] Within this context, the chief of the General Staff, General Dan Halutz from the Israeli Air Force (IAF), identified Operation Specific Weight as an appropriate, immediate response to destroy limited infrastructure, block kidnapper escape routes and simultaneously destroy Hezbollah's long-range missiles as a punitive action.[82] Operation Specific Weight proved a resounding tactical success as it destroyed fifty-nine stationary rocket launchers hidden in homes within thirty-four minutes. This attack achieved complete surprise and truly shocked Hezbollah with Israel's ability to identify so many sites.[83] In response, Hezbollah unexpectedly began attacking with hidden Katyusha rockets, a 122mm rocket with a range of approximately twenty kilometers.

Hezbollah understood the IDF capabilities and its goal to quickly destroy Hezbollah's command and control structure. To counter the IDF advantage, Hezbollah removed a central command and control structure and created a network of autonomous cells with little interaction. As a result, the IDF had no critical strategic center of gravity to attack nor a means to derive the new structures.[84] Hezbollah effectively established a robust system that could fight in a relatively decentralized manner and defend their critical rocket sites long enough to achieve their objectives. These defensive objectives sought to deter Israel from reoccupation or to use brute force as part of a coercive campaign to shift international pressure against Israel to cease their operations.[85] When the war began, the IDF soon discovered the operational environment differed

[81] Harel, 60.

[82] Ibid.

[83] Ibid., 91. The IDF employed a cognitive approach to support new doctrine oriented around Effects Based Operations (EBO) and Systemic Operational Design (SOD). Matthews, 28.

[84] Matthews, 21.

[85] Biddle, 49.

significantly from the operations it conducted against Hezbollah prior to 2000 and the clearing operations against the ill-prepared Palestinians.

General Halutz determined to continue his air campaign but only expand ground operations for the regular army to conduct limited raids to avoid a major ground offensive. This went against the preparations within Northern Command. The commander, Major General Udi Adam, intended to execute a decisive ground invasion named Operation Elevated Waters.[86] Throughout the period from July 18 to 27, the Israelis conducted limited operations with some tactical success but at far greater than expected casualties with little impact on the Katyusha fire on Israeli cities.[87] On August 1, Northern Command executed Operation Change of Direction 8 with the goal to establish a security zone several kilometers wide along the entire border. This operation was subsequently followed by Operation Change of Direction 11 on August 11.[88] Each of these operations produced limited results with again, higher than expected casualties. The results from these operations in southern Lebanon began to trigger changes in both the political and military establishments.

This is the exact type of situation where operational reconnaissance could develop the situation against a rival prior to main force elements beginning their engagements. Improved understanding of the enemy reaction to Israeli efforts would have provided General Adam an opportunity to execute a more decisive campaign rather than more limited attacks that diminished the IDF advantages. Given the change in the nature of the conflict, the operational reconnaissance objectives and necessary capabilities require refinement.

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[86] Harel, 126-127.

[87] Ibid., 136.

[88] Biddle, 32.

Figure 4. Israeli Ground Operations: 17 July – 14 August 2006

Source: Matthews, 53.

Operational Reconnaissance Objectives and Capabilities

Within operational reconnaissance, as employed against more traditional threats, forces are routinely oriented towards enemy force concentrations, operational and strategic reserves, specific enabler capabilities, key supply locations and major infrastructure or terrain features. As the range of military operations drifts towards hybrid warfare, operational reconnaissance requires refinement of additional operational reconnaissance objectives that incorporate a systems perspective, which includes an assessment of capabilities, intentions, relationships and behaviors.[89] The new and varying reconnaissance objectives also require a mix of friendly force capabilities that includes a greater of use of signals intelligence, human intelligence and intelligence analysis to provide a more complete understanding of a rival system. The following

[89] The range of military operations is the contemporary construct to provide military options across a conflict continuum ranging from peace to war. Joint Publication (JP) 1, *Doctrine for the Armed Forces of the United States* (Washington, DC: Government Printing Office, March 2013), I-14.

discussion integrates the new operational reconnaissance objectives with the necessary capabilities to understand a rival system.

As previously noted, the Israeli intelligence services clearly identified Hezbollah's major long range missile capabilities. The intelligence services also identified some of the decentralization within Hezbollah's command and control system as it spread out in some 130 villages in southern Lebanon.[90] This intelligence estimate provided the majority of the targets for Operation Specific Weight but failed to identify extensive Hezbollah defensive preparations. Nor did Israeli intelligence identify the extent of the weapon systems available to the Hezbollah fighters. Israeli forces ultimately faced twelve different anti-tank guided missile systems, including some of the latest Russian designs.[91] These systems proved extremely effective from well prepared and concealed positions that essentially elevated a nominally standard tactical problem to an operational dilemma. The IDF failure to tactically understand a perceptibly inferior force ultimately hindered the achievement of its strategic objectives.

An operational reconnaissance force will likely not uncover a rival's full capabilities but inherent adaptability to overcome obstacles, often while in contact with the rival, will paint a more comprehensive picture of the threat. This includes the ability to integrate additional information collection capabilities that can explore the rival throughout the depth of area of operation. Hybrid threats, such as Hezbollah, are increasingly using cellular and satellite technology to facilitate communication.[92] SIGINT is a critical capability that enables operational reconnaissance to develop a picture of the rival system necessary to facilitate effective operations. Operational reconnaissance in southern Lebanon would likely have faced similar casualties as the initial attacks. However, their effort to gain a better understanding of the enemy would have

[90] Arkin, 26.

[91] Ibid., 36-38.

[92] Cordesman, 116 and 142.

likely led the IDF to execute Operation Elevated Waters. The IDF Northern Command was trained and prepared to conduct decisive ground invasion capable of defeating dispersed, but well-prepared defenses.

Hezbollah's asymmetric capabilities provided greater flexibility to conduct a campaign against Israel. Hezbollah subsequently modified its intentions to pursue a coercive campaign built around rocket attacks to force Israeli to cease the pursuit of its objectives. This required Hezbollah to defend the area for enough time to degrade the will of the Israeli people.[93] There were a variety of ways Hezbollah could have decided to prevent Israel from reaching the rockets sites and they generally revolved around defending terrain or inflicting excessive casualties. It appears that Hezbollah conducted a combination of both approaches with greater emphasis towards casualties with the aim of delaying any Israeli advance.[94] In the IDF case, an operational reconnaissance force could have explored the Hezbollah intention to defend the terrain providing access to the rocket sites. With the additional understanding of Hezbollah's intentions, it may have been clear to Israeli leaders earlier that a limited campaign would not coerce Hezbollah to return the captured soldiers nor cease the Katyusha attacks.

Another factor that operational reconnaissance could have explored was the relationships between Hezbollah and the other players in the environment. The Lebanese government worked to regain control of southern Lebanon from Hezbollah and the relationship between Hezbollah and the local population was a critical factor. Israel initially conducted a poorly conceived psychological campaign to isolate the Lebanese Shiites from Hezbollah that ultimately failed through the effects collateral damage.[95] Early use of operational reconnaissance augmented with

[93] Biddle, 51

[94] Ibid., 52-53.

[95] Achcar, 38.

SIGINT and HUMINT assets could have determined the relationships between various actors and improved the development of information operations. HUMINT would have been equally important to characterize targets in the urban areas that the Israelis found themselves fighting in throughout the war.[96] This point recognizes that the entire population may not be hostile when confronted by an interventionist force.

An additional tactical factor with operational impacts was the behavior of the Hezbollah fighters and their preparation to defend their positions. As one special operator discovered, "we expected a tent and three Kalashnikovs – that was the intelligence we were given. Instead we found a hydraulic steel door leading to a well-equipped network of tunnels."[97] This supports the broader view that Hezbollah's ability to fight back and its effective defensive system took the IDF by surprise.[98] The importance of framing the enemy is critical to determine how an enemy will or may fight. The IDF believed Hezbollah focused predominantly on its long-range rocket systems and would collapse if these and its command and control structures were destroyed. An operational reconnaissance approach could have explored the nature of Hezbollah's defenses across the border to determine how it had adapted in the previous six years. General Halutz could subsequently decide on an approach that accepted Hezbollah's behavior towards the IDF.

Operational reconnaissance should seek to confirm the strategic intelligence that drove its commitment. This requires an internal intelligence analysis capability to identify the immediate tactical impacts from a rivals capabilities, intentions, relationships and behaviors. Israeli intelligence did ultimately gain a great deal of information through strategic and covert assets to identify the basic capabilities Hezbollah maintained at the start of the war. This information

[96] Cordesman, 44-45.

[97] Matthews, 44.

[98] Achcar, 65.

meant a great deal to the pilots targeting key missile and command systems that supported the IDF's initial operational approach. This same information did little to communicate how the Hezbollah fighters would respond to a new Israeli invasion and dramatically impacted the IDF's ability to conduct an operation to decisively defeat Hezbollah. An operational reconnaissance force must have the ability to adaptively interact with the rival system with its own analysis capabilities to provide a better understanding to the operational commander.

The focus for operational reconnaissance and the capabilities necessary to conduct it successfully have evolved in addition to the traditional characteristics associated with World War II. US forces will likely face similar adjustment as a highly technological force with an asymmetric advantage in firepower against a perceptibly ill-equipped and ill-trained irregular force. It is important for US leaders to learn from the IDF experience and an operational reconnaissance force enables operational commanders to develop a better understanding of the rival and the environment they seek to operate.

Section IV – Informing the Contemporary Operational Commander

During the World War II era operational reconnaissance predominantly conducted reconnaissance deep within enemy territory to identify large enemy concentrations to support the decision making for large unit commanders. The 2006 Hezbollah War provided a brief but bitter lesson on the adaptive dynamics of the modern battlefield. These changes take place rapidly prior to and during conflict and require dedicated efforts to engage with a rival in such a manner that leads to mission success. The US Army can use operational reconnaissance to improve its ability to frame and reframe the operational environment in order to improve a commander's ability to develop an operational approach. It can do this through clearly defined reconnaissance objectives and a force with broad capabilities that informs the contemporary operational commander.

Operational Reconnaissance Objectives

Traditional enemy
- Enemy force concentrations
- Enemy operational and strategic Reserves
- Enemy operational enablers
- Key supply locations
- Major infrastructure and terrain features

Hybrid threat additions
- Rival capabilities
- Rival intentions
- Rival relationships
- Rival behaviors

Figure 5. Operational Reconnaissance Objectives

The reconnaissance objectives for a traditional enemy force have changed little from the interwar period. Traditional reconnaissance objectives focus on enemy force concentrations, enemy operational and strategic reserves, enemy operational enablers and geographic characteristics. Contemporary enemies will seek to augment their conventional forces with unique

capabilities that can overcome US advantages.[99] An adept enemy commander will likely conduct extensive deception, counterintelligence, and counter-reconnaissance operations to hide his intentions. The goal for the operational reconnaissance force is to overcome these enemy efforts, narrow the enemy's available options and to determine the enemy's broad intentions. Current doctrine emphasizes a systems perspective to identify the enemy's key nodes, and centers of gravity where the impact on one can increase the ability to defeat the entire enemy system.[100] Operational reconnaissance provides an ability to evaluate the accuracy of a templated enemy system, the possible impact of effects on the system and the disposition of the enemy. Gaining a better understanding of the enemy rationale for action is critical but must also be clearly linked to the impacts of geography. The focus on the enemy requires equal focus towards confirming the impact the geographical environment will have on military operations. Joint doctrine purposely recommends a macro-analytic approach so planners can maintain a broad outlook towards understanding the operational environment.[101] Very often the depicted terrain on an operational modified combined obstacle overlay is dramatically different to the Soldiers on the ground and they must adapt quickly to the unexpected conditions. These seemingly tactical considerations can have an operational impact if not adequately and accurately reconnoitered.

The operational reconnaissance objectives in a conflict against hybrid threats focus much more on the systems perspective due to the much greater integration from the entire population with the rival as a complex adaptive system. As a result the reconnaissance objectives expand to include rival relationships, rival intentions, rival capabilities and emergent rival behaviors. Current Joint intelligence preparation of the battlefield doctrine provides a great deal of guidance

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[99] TP 525-3-1, 8.

[100] Joint Publication (JP) 2-01.3 *Joint Intelligence Preparation of the Operational Environment* (Washington, DC: Government Printing Office, 2009), II-44 to 46.

[101] Ibid., I-4.

to develop the details within each of these points and the following is a brief review of the reconnaissance objectives as they pertain to operational reconnaissance and planning.

Future rivals work within local populations with a broad variety of relationships that exist in a systemic nature. The objectives for acquiring detailed information about rival relationships and intentions are twofold. The first objective is to develop a better understanding of the local system and the interconnections between various agents and their intentions as they pertain to each other.[102] The second objective is to determine the intentions and responses of various actors when a US force interacts with the system. The interaction with the US force is nearly as important as the interactions within the system itself. A more complete understanding of the evolving relationships within the rival network can dramatically impact the commander's operational approach. Determining rival capabilities is a third objective and are usually measured by studying the history of a conflict and determining the external sources of support provided to rival groups. This is particularly relevant if US forces must conduct stability operations within the area. Operational reconnaissance ultimately confirms initial estimates but continues to monitor changes to rival capabilities for the duration of an intervention.

The final objective is to develop an understanding of the rival's emergent behaviors. In this case, understanding behaviors requires an operational reconnaissance force to interact with the rivals in the context of the system as a whole. The first factor directly relates to the adaptations a rival has relative to the introduction of the friendly force which may promote or resist change.[103] The second factor is that behaviors within a system can provide indicators to as

[102] FM 3-55, 1-12.

[103] Yaneer Bar-Yam, *Making Things Work* (NECSCI: Knowledge Press, 2004), 28.

to the structure of the full system.[104] An operational reconnaissance force can explore these behaviors to identify how external force actions can improve or degrade the situation to impact mission success. Understanding behaviors also provides an opportunity to identify when differing factions are using the US force to gain power over that force or an internal rival. An operational commander must seek to recognize when their force may contribute to an imbalance that only increases instability within a country. In the reverse, other factions that may appear to resist a US presence as a threat to their own power when they may have been in the best position to restore locally acceptable stability.

Operational Reconnaissance Capabilities

Traditional enemy
- Mobility
- Depth
- Sustainability
- Lethality
- Survivability
- Adaptability

Hybrid threat additions
- Human intelligence
- Signals intelligence
- Intelligence analysis

Figure 6. Operational Reconnaissance Capabilities

Figure 6 depicts the traditional operational reconnaissance capabilities and recommended hybrid threat additions for a contemporary operational reconnaissance force. Experiences in World War II by the US and Soviet armies validated the traditional capabilities. Experiences of the IDF against Hezbollah indicated the need for human intelligence, signals intelligence and intelligence analysis as resident capabilities of the operational reconnaissance force. As US forces

[104] Peter Senge, *The Fifth Discipline* (New York, NY: Currency Doubleday, 2006. 43. This premise is based on the idea that people will conform to the structure of the system and produce behaviors that reflect the nature of the system.

prepare for future rivals, planners must consider both types of capabilities as they employ operational reconnaissance forces.

The United States maintains a uniquely global posture to protect its national security interests.[105] This global posture requires additional strategic mobility to deploy an operational reconnaissance force around the world with the assets that provide the committed force freedom of maneuver within the area of operations. Once in theater, lessons from World War II demonstrate the need for operational mobility with speed and range to enable the force to rapidly reposition within the theater as required.[106] Tactically the force typically needs superior road mobility as it is focused on broader characteristics of the environment, but must also have the capability to transit through more restricted terrain if required.[107] The primary requirement for mobility generally requires a lighter force, which may restrict its effectiveness against a conventional force in prepared positions.

The concept of depth is the extension of operations in time, space, or purpose to achieve definitive results.[108] An operational reconnaissance force develops depth through the integration of aerial reconnaissance and surveillance platforms with ground reconnaissance forces. Aerial assets help describe the general conditions of the operational environment and inform ground reconnaissance efforts. Ground reconnaissance subsequently determines the intentions of the enemy force or rival to a distance that provides the time necessary for the operational commander make decisions. This is specifically a skill for the dismounted scout with the ability to interact

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[105] Department of Defense, *2014 Quadrennial Defense Review* (Washington, DC: Government Printing Office, 2014), VIII.

[106] General Board 49, 14.

[107] Ibid., 10.

[108] ADRP 3-0, 2-14.

with the population to gauge local sentiments.[109] This dismounted element also provides a level of discretion and stealth that supports surveillance efforts to gauge local actions when not interacting with the force. This dual interaction further allows the operational reconnaissance force to determine differences between a rival's intentions both in and out of contact with the force.

Mobility and depth requires a significant sustainment capability to support the operational reconnaissance force while it deploys ahead of or operates away from the main force. The sustainment requirements must support the operational range of a force within the theater and will require an on-hand sustainment capacity beyond the requirements of a traditional force with an established ground line-of-communication. The likely austere environments may require operational reconnaissance forces to draw from the local environment for fuel, water, or even food for periods of time to augment their daily resupply.[110] Operational reconnaissance forces face unique challenges and require additional skill sets that allow them to sustain themselves differently than current conventional US forces.

The operational reconnaissance force ultimately seeks to understand the operational environment through interaction with the enemy or rivals. In all conflicts, this requires a level of lethality with the capacity to physically defeat enemy security and counter-reconnaissance forces.[111] The operational reconnaissance force may desire to avoid direct contact with an enemy force through stealth, but combat is inherent to any force operating beyond the forward line of troops.[112] Planners must assume that a rival may ultimately decide to oppose an operational

[109] Cameron, 489.

[110] Christopher Prigge, office conversation, December 4, 2014.

[111] ADRP 3-0, 2-13.

[112] The basic viewpoint of fighting or not fighting is the ability to defeat an enemy security or counter-reconnaissance force in order to gain the desired information or to avoid

reconnaissance force in any perceived situation and the force must have the capability to defeat dismounted soldiers in complex terrain or even armored assets. The emphasis on mobility creates a tension with the survivability of the force. Within current technology, additional protection generally increases the weight, sustainment and strategic lift requirements.[113] An operational commander must consider the initial understanding of the rival to determine the level of risk to the operational reconnaissance force. Survivability is a key limitation necessary to support required mobility, but is mitigated with superior lethality. A modern operational reconnaissance force must have a level organic direct and indirect fire capability to defeat heavily armored enemy forces. Another method to increase lethality is through a higher degree of integration of aerial precision guided munitions.

An operational reconnaissance force ultimately requires a high degree of adaptability to enter complex environments in order to provide the operational commander the information necessary to improve his operational approach. The nature of operational reconnaissance may require the integration of joint, interagency, intergovernmental, or multinational assets to assist with the mission. It is not feasible and may be quite wasteful to integrate a multitude of capabilities that may or may not be necessary to understand a specific operational environment. This demands close scrutiny of what kind and how much augmentation a reconnaissance unit requires for the mission. Much of the organization's adaptability must be held within the headquarters element with scare resources allocated as required. In addition to these traditional capabilities, the operational reconnaissance force requires new capabilities. Chief among these are HUMINT capabilities.

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fighting entirely as a distraction from the primary mission to gather information for the commander. Cameron, xv.

[113] FM 3-90.6, 1-7.

Human intelligence or the intelligence and information collected and provided by human sources directly enhances the ability for the operational reconnaissance force to understand the local population.[114] Interaction with a populace not only provides current contextual information but supports the adaptations the population undergoes when faced with an intervening US force. Human intelligence provides one of the best ways to improve the quality and nature of the information gained.[115] HUMINT teams are a limited asset within the military, but should not be withheld from the operational reconnaissance force. This is of much greater importance prior to the deployment of the main force to a new area of operation as HUMINT teams dramatically increase the ability to understand the operational environment.

A key support capability is signals intelligence or the intelligence gained from foreign communications and non-communications emitters.[116] Technology is a critical component of the modern battlefield and the ability to monitor enemy signals provide a unique advantage to build and understand a rival network. Monitoring enemy communications has long roots prior to World War II and its importance in determining rival intentions or planned actions can dramatically improve the ability of the operational reconnaissance force to understand the operational environment.[117] The use of SIGINT is likely in all types of situations and this capability should be integrated into the operational reconnaissance basic organization.

Intelligence analysis specifically refers to the ability for the operational reconnaissance force to internally process and exploit information that enables force collection efforts.[118] This

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[114] FM 3-55, B-4.

[115] Cameron, 489.

[116] JP 2-0, B-5.

[117] PU-36, 8.

[118] JP 2-0, I-15.

enables the operational force commander to shape tactical actions that further develops his understanding of the situation. The intelligence gained from operational reconnaissance ultimately informs far more extensive agencies, but the ability to quickly turn information greatly enhances the ability for the force to develop the situation. The force commander on the ground further gains the ability to help the operational commander understand the operational environment through his own analysis. This requires a clear link to the operational headquarters with the capability to integrate operational reconnaissance missions and information.

A possibly radical, but intriguing proposal comes from Richard Simpkin and includes a broad change that adapts western staffs to further develop their ability to incorporate operational intelligence. Simpkin wrote the following in *Race to the Swift: Thoughts on Twenty-First Century Warfare.*

> I believe there is a need for a separate staff function, which one might call "reconnaissance," to deal with operational intelligence. This branch would be oriented towards cavalry, army aviation and special forces - whose way in going about things has much in common - and would be manned by staff officers at least equal in quality to key operations staff (G3) officers - in other words, people with potential for higher command. The head of this branch would have direct access to the commander, and would control the reconnaissance force and any special force detachments assigned to information gathering. This branch would make use of data processing and specialists, but would be based on human talent of top general staff standard.[119]

Gaining information superiority is considered a critical advantage over a rival as it enables faster and better decision making. Too often it seems the emphasis is to use technology to gain this information rather than employ the tools that may lie within the best and brightest from within the organization to facilitate more effective planning.

Operational Reconnaissance Planning

[119] Richard Simpkin, *Race to the Swift: Thoughts on Twenty-First Century Warfare* (London, England: Brassey's Defense Publishers, 1985), 204.

The decision to employ operational reconnaissance occurs within deliberate planning, crisis action planning and contingency planning with the aim of improving the operational commander's assessment of the situation and understanding of the underlying problems. In the absence of known information the commander makes assumptions to enable future planning. If the operational commander determines that unknown information exceeds the staff's ability to make assumptions, then the operational commander has an opportunity to provide operational reconnaissance as an option. The decision to employ operational reconnaissance enables a dialogue with strategic leaders and supports join operational planning.

Joint operational planning includes operational activities, planning functions, and planning products.[120] The planning functions further breaks down into strategic guidance, concept development, plan development, and plan assessment.[121] The development of an operational reconnaissance plan fits most appropriately within the first two functions, most notably during crisis action planning where time is short and the situation is not fully developed. It is during these functions that an operational commander will use conceptual planning to arrange tactical actions to achieve strategic objectives.

During strategic guidance the staff develops assumptions and conclusions about the strategic and operational environment. Additionally, they develop an understanding of the strategic objectives and the necessary conditions required to achieve those objectives.[122] Within design, the commander uses this information to understand and visualize the current operational environment and the desired operational environment. This normally enables the commander and staff to identify the obstacles preventing accomplishment of the strategic objectives. In a complex

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[120] Joint Publication (JP) 5-0, *Joint Operational Planning* (Washington, DC: Government Printing Office, 2011), II-13. See Chapter 3, JP 5-0 for a full description of operational design.

[121] Ibid., II-19.

[122] Ibid., II-19-20.

operational environment, where the reaction to a US presence is unknown, the commander may not be able to adequately understand and visualize the appropriate obstacles. Operational reconnaissance seeks to validate or invalidate assumptions about the operational environment, while also improving understanding in general. The joint intelligence community currently nests its own line of effort to plan intelligence operations synchronized with operational planning.[123] It is within this function that the employment operational reconnaissance can support the intelligence system and the operational commander.

The deployment of an operational reconnaissance force allows planners to begin receiving feedback from the rival system through direct interaction in accordance with the defined operational reconnaissance objectives. This action could occur within twenty-four hours to support crisis action planning or over several months to support a more deliberate planning effort. Soldiers operating on the ground have the ability to interact with the environment where aerial, signal, or other forms of distant intelligence gathering techniques are limited.[124] This interaction better informs the necessary major capabilities required and task organization, major operational tasks to be accomplished by components, a concept of employment, and an assessment of risk for proposed courses of action.[125] The operational commander uses this information to reframe the operational environment and the obstacles preventing the achievement of the strategic objective in order to develop an appropriate operational approach. Conducting these activities during concept development prevents the commitment of improper forces and resources that could impact strategic success.

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[123] JP 2-0, IV-5.

[124] Field Manual (FM) 2-91.6, *Soldier Surveillance and Reconnaissance: Fundamentals of Tactical Information Collection* (Washington, DC: Government Printing Office, 2007), 1-2.

[125] Ibid.

As currently discussed, the employment of operational reconnaissance is not limited solely to concept development. An operational commander can deploy the force at any point during their planning effort or execution with the understanding that the information gained may require a reframing of the operational environment with significant impacts on conceptual planning. The operational reconnaissance force is a unique option that improves the operational commander's ability to achieve strategic objectives through a better arrangement of tactical actions in time, space and purpose.

Conclusion

Operational reconnaissance is defined as reconnaissance conducted prior to and during campaigns to support the operational commander in the development or modification of an operational approach and to inform command decisions. The concept for operational reconnaissance is based on the recognition of the operational environment as a complex system. Future rivals to the United States will have a variety of actors in a differing roles and equally differing relationships. Compounding the complexity of the binary relationship between the United States and its direct rivals is the population within the operational environment. The population maintains a wide array of preferences and relationships that may fluctuate widely in support of the various forces. The changes within each of these systems are often unpredictable and the situation can improve or degrade dramatically with the introduction of US forces. Operational commanders and planners seek to understand this environment and to develop an appropriate operational approach that achieves the desired strategic objectives. Operational reconnaissance aims to inform these decisions and improve the ability for the commander to efficiently use resources and succeed in their mission.

Operational reconnaissance planning occurs during the joint operational planning functions of strategic guidance and concept development. The operational commander uses operational reconnaissance forces when US leadership makes the decision to intervene in an area of operations. During strategic guidance, commanders assess and plan for the employment of operational reconnaissance when facing an ill-defined operational environment. The operational reconnaissance force may deploy as early as the concept development step to gain, confirm or deny information requirements that support operational course of action development. Any deployment supports the operational level of war, but its employment may have strategic consequences that must be understood before deployment. Once the decision is made, the proximity of the operational reconnaissance force inherently improves its ability to gather a greater detail of information than other forms information collection to include the intent of

various actors in the theater of operation. The force itself also improves the ability for planners to receive feedback from the environment where the rival and the people automatically change their behaviors and modify their relationships with the external force. Due to the ambiguous nature of the environment, the operational reconnaissance force must have a broad array of capabilities to achieve a diverse set of operational objectives.

The proposed range of operational reconnaissance objectives (figure 5) are adequate for both a traditional near peer force as well as an asymmetric rival that blends much more easily with the local population. Each of these conditions requires an intensely adaptable force that can fight and survive against strong conventional forces in one conflict or peacefully engage local leaders to gain the information necessary to support the operational commander's decisions. The sheer independence of the force requires a broad array of capabilities that enables it to act well away from a main force for an extended period of time. The mix of traditional cavalry and intelligence capabilities provides for a very robust force that must remain oriented towards its reconnaissance function. De-conflicting these capabilities to maximize their effectiveness is a critical step to refining the concept of operational reconnaissance between the two branches.

Operational reconnaissance is a method for the military to develop successful operational approaches for conflict resolution. The painful reminders of Iraq, Afghanistan or the 2006 Israeli-Hezbollah War provide lessons where an entire force wasted a great deal of effort in executing tactical actions that did little to achieve the desire strategic objectives. This concept for operational reconnaissance that requires refinement evolving technology and the changing nature of warfare. It is a timeless concept that should drive military leaders to explore how they can improve their ability to develop the best operational approach for a given situation. To put it simply, it is better to attack the wrong side of the hill rather than the wrong hill; or as some of us know, regime change is dramatically different than nation building and neither is easy.

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